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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,667	06/21/2006	Curt Gunnar Falk	66352-044-7	3769

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WASHINGTON, DC 20005

EXAMINER
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ATKISSON, JIANYING CUI

ART UNIT	PAPER NUMBER
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3742

MAIL DATE	DELIVERY MODE
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10/04/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/583,667	<b>Applicant(s)</b> FALK, CURT GUNNAR	
	<b>Examiner</b> JIANING ATKISSON	<b>Art Unit</b> 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,5-16 and 18-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5-16 and 18-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2006 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Drawings*

Figures 1, 3, 6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 5-16, 18-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "a first/second coupling part for **torque** and rotary movement with a first shaft or axle". It is not clear what is meant by "**torque** with a first shaft or axle".

Claim 1 recites the limitation "...**which** has two settings ". It is not clear what is meant by "**which**".

Claim 1 recites the limitations “said **safety unit** including an **expandable subpart**”, “a **pressure expandable subpart** in said **first coupling part**”, There is inconsistency on where the expandable part is located, safety unit or the first coupling part. Claim 1 later recites “**said expandable subpart**”, it is not clear which limitation “**said e-+ xpandable subpart**” refers to, i.e., “said **safety unit** including an **expandable subpart**” or “a **pressure expandable subpart** in said **first coupling part**”.

Claim 1 recites the limitations “**one of** said first coupling part and said second coupling part is formed with a **generally axially-directed groove**” and “**said groove in the second coupling part**”, it is not clear if “**said groove**” refers to the “**generally axially-directed groove**”, there is insufficient antecedent basis for the limitation “**said groove in the second coupling part**” in the claim since earlier it is recited that “**one of said first coupling part and said second coupling part** is formed with a **generally axially-directed groove**”.

The term “**essentially**” or “**generally**” in claims 1, 12, 24, 28 is a relative term or term of degree which renders the claim indefinite. The term “**essentially**” or “**generally**” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim 5 recites the limitation “said outer radial groove and said axially directed groove of **said safety unit**”. There is insufficient antecedent basis for this limitation since the radial groove and axially directed groove are formed on one of the first and second coupling parts as claimed in claim 1.

Claim 7 recites the limitation “**said safety coupling**”. There is insufficient antecedent basis for this limitation.

Claim 8 recites the limitation “... is positioned in connection with said first and second coupling parts and **its collar**”. It is not clear what “**its collar**” refers to.

Claim 9 recites the limitation “... a device which is fixed in relation to said collar, **which** coacts with **said** filling nipple such that **a small relative movement** between said first coupling part and said second coupling part and **said movement** will cause **the** filling nipple to shear for a rapid evacuation of said pressure”. There is grammatical problems with the phrase in quote, also it is not clear what “**which**” refers to; further it is not clear if “**said** filling nipple” and “**the** filling nipple” refer to the same nipple. Further it is not clear if “**said movement**” refers to “**a small relative movement**”.

Claim 10 recites the limitations “the **safety unit groove**” and “**said groove**”. There is insufficient antecedent basis for these limitations.

Claim 13 recites the limitations “**said part**” and “**its sections**”. There is insufficient antecedent basis for the limitations. Further it is not clear what is meant by “**its sections**”.

Claim 14 recites the limitation “**said corresponding sections**”. There is insufficient antecedent basis for this limitation.

Claim 15 recites the limitation “free end portions of **material sections or legs** ...when the safety unit, together with **its** associated subpart or body, takes **its first and expanding setting**”. It is not clear what is meant by “**material sections or legs**”; it is not clear what “**its**” refers to.

Claim 16 recites the limitation “**an axially-directed groove**”. It is not clear if this limitation refers to the “**generally axially-directed groove**” recited earlier.

Claim 18 recites the limitation “**said edges**” and “**said groove**”. There is insufficient antecedent basis for the limitations.

Claim 19 recites the limitation “**said subsection**”. There is insufficient antecedent basis for this limitation.

Claim 20 recites the limitations “**said outer sections**” and “**the expandable subpart**”. There is insufficient antecedent basis for the limitations.

Claim 21 recites the limitation “**the chosen torque transfer**”. There is insufficient antecedent basis for this limitation.

Claims 22-23 recite the limitation “**said expandable subpart**”. There is insufficient antecedent basis for this limitation.

Claim 24 recites the limitation “**said overlapping subsections**”. There is insufficient antecedent basis for this limitation.

Claim 25 recites the limitations “**the overlapping subsections**”, “**the outer subsection**” and “**the inner**”. There is insufficient antecedent basis for the limitations. It is not clear what is meant by “**the inner**”.

Claims 26-27 recites the limitations “**the legs**” and “**said groove**”. There is insufficient antecedent basis for the limitations.

Claim 28 recites the limitations “**said free end portions or legs**”. There is insufficient antecedent basis for the limitation.

Claims 5-16, 18-28 are also rejected because their dependency on claim 1.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 5, 7-11, 15-16, 18-20, 24-28, insofar as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant Admitted Prior Art (AAPA, Figs. 1, 3, 6 of US PG PUB 2007/0068510).

Regarding claim 1, AAPA teaches a safety coupling apparatus (Fig. 1, 1) comprising

a first coupling part (11) for torque and rotary movement with a first shaft or axle (shaft 1'),

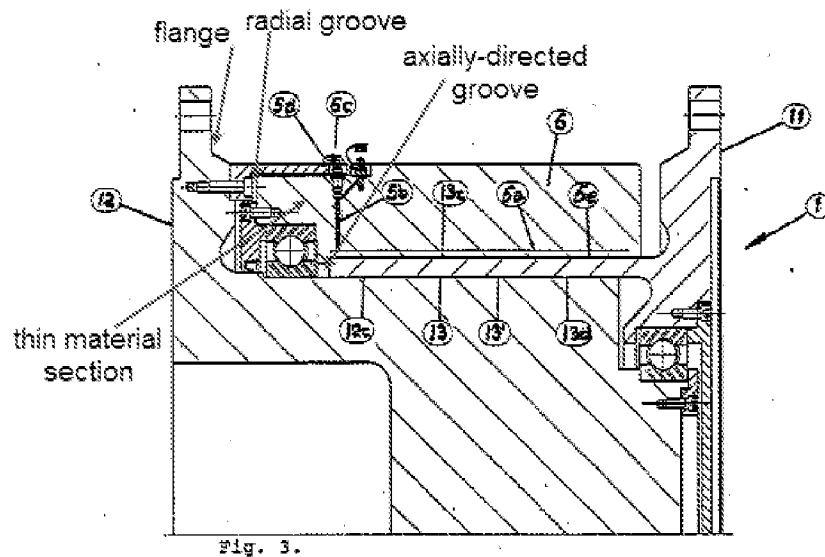
a second coupling part (12) for torque and rotary movement with a second shaft or axle (3), and

a safety unit (13) between said first and second coupling parts and which has two settings, a first setting in which torque and rotary movement is transferred between said first and second coupling parts and a second setting in which no torque and rotary movement is transferred between said first and second coupling parts (par. 0091), said safety unit including an expandable subpart (13') that causes said safety unit to be in said first setting when expanded by applying pressure to a cavity (5a) within the safety unit and enclosing said pressure in said cavity, and be in said second setting when said

Art Unit: 3742

pressure is evacuated from said cavity (par. 0092), wherein one of said first coupling part and said second coupling part is formed with a generally axially-directed groove (the groove of 12 to hold 13, as annotated below) which surrounds a pressure expandable subpart in said first coupling part and essentially the whole of said cavity, and wherein said expandable subpart, when in its first setting, functions to allow torque to be transferred directly to said first coupling part or said second coupling part via two mutually opposing surface parts (13c, 5e, par. 0092) which are frictionally active against opposing outer parts of the axially-directed groove, wherein said first coupling part includes two axially-directed projections each adapted for coaction with said groove in the second coupling part, and are shorter than said cavity, wherein the expandable part is formed as an end locking means, wherein said second coupling part includes a collar (5) which is essentially centered with respect to said axially-directed groove, said collar is integrated with said second coupling part, and an outer radial groove formed between a flange and said collar, said flange belonging to said second coupling part (as shown below).





Regarding claim 5, AAPA teaches that a thin material section is formed in said one of said first and second coupling parts between said outer radial groove and said axially-directed groove of said safety unit.

Regarding claim 7, AAPA teaches that said safety unit (13) is integrated with and constitutes said first coupling part (11, Fig. 3) and includes a flange for fixed coaction with a torque transferring shaft connected to the safety coupling.

Regarding claim 8, AAPA teaches that the apparatus according to Claim 1, including a pressure medium filling nipple (5c) which extends radially out from the safety unit and is positioned in connection with said first and second coupling parts and its collar.

Regarding claim 9, AAPA teaches that the apparatus according to Claim 8, including a device (5d) which is fixed in relation to said collar, which coacts with said filling nipple such that a small relative movement between said first coupling part and said second coupling part and said movement will cause the filling nipple to shear for a rapid evacuation of said pressure (par. 0094).

Regarding claim 10, AAPA teaches that the apparatus according to Claim 1, including a first ball bearing ring (Fig. 3, bottom ring) placed at the bottom of the safety unit groove for coaction between said safety unit and said groove.

Regarding claim 11, AAPA teaches that the apparatus according to Claim 10, including a second ball bearing ring (top ring) placed adjacent an opening of said safety unit groove for coaction between the safety unit and said groove.

Regarding claim 15, AAPA teaches that the apparatus according to Claim 1, wherein free end portions of material sections or legs forming said axially-directed groove are coordinated with locking means provided there between and adapted to prevent any divergence of said free end portions when the safety unit, together with its associated subpart or body, takes its first and expanding setting.

Regarding claim 16, AAPA teaches that the apparatus according to Claim 15, wherein said first coupling part and said second coupling part are mutually adapted to include mutually overlapping and coordinated cylindrical subsections on a respective side of an axially-directed groove.

Regarding claim 18, AAPA teaches that the apparatus according to Claim 16, wherein said edges are related peripherally to said first coupling part, and wherein said groove is formed peripherally in said second coupling part.

Regarding claim 19, AAPA teaches that the apparatus according to Claim 16, wherein said subsection is adapted for torque transmission via axially orientated and cylindrical outer sections (13c, 5e).

Regarding claim 20, AAPA teaches that the apparatus according to Claim 19, wherein a length of said outer sections and a normal pressure dependent on the chosen expansion of the expandable subpart are adapted for a torque transfer of between 10 and 30% of the total torque transferred between said coupling parts.

Regarding claim 24, AAPA teaches that the apparatus according to Claim 16, wherein said overlapping subsections have essentially the same radial thicknesses.

Regarding claim 25, AAPA teaches that the apparatus according to Claim 15, wherein with regard to the overlapping subsections, the outer subsection has a greater thickness than a thickness of the inner.

Regarding claim 26, AAPA teaches that the apparatus according to Claim 15, wherein the first coupling part is formed to function as a locking means against expansion of the free end portions of the legs forming said groove in the second coupling part.

Art Unit: 3742

Regarding claim 27, AAPA teaches that the apparatus according to Claim 26, wherein the legs forming said groove have essentially the same material thickness.

Regarding claim 28, AAPA teaches that the apparatus according to Claim 27, wherein a radius difference between the mutually opposing cylindrical outer parts of the groove is smaller or essentially equal to a total radial thickness of said free end portions or legs.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6, 12-14, 21-23, insofar as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA, Figs. 1, 3, 6 of US PGPUB 2007/0068510).

Regarding Claim 6, AAPA teaches the limitations of claim 5, but does not teach explicitly that said thin material section is elastically resilient.

However since the thin material section is subject to forces caused by expanding safety unit, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate elasticity to the thin section so as to increase the life span of the coupling part.

Art Unit: 3742

Regarding claims 12-14, AAPA teaches the limitations of Claim 1, but does not teach explicitly the cross-sectional shape of the axially-directed groove.

However it would have be a design choice to use different cross-sectional shapes for the axially-directed groove.

Regarding claims 21-23, AAPA teaches the limitations of Claim 20, but does not teach explicitly the amount of torque transfer or the length of the axially-directed groove.

However it would have been obvious to a person of ordinary skill in the art at the time of invention to design the torque transfer amount and the length of the groove to be of appropriate values to realize the optimum performance.

### ***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JIANYING ATKISSON whose telephone number is (571)270-7740. The examiner can normally be reached on Mon-Friday. 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on (571)-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JIANYING ATKISSON/  
Examiner, Art Unit 3742  
9/28/10

/TU B HOANG/

Supervisory Patent Examiner, Art Unit 3742